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PATENT TRADEMARK OFFICE

Docket No: 9614/OL414

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: **Hiroshi IIZUKA et al.**

Serial No.: 09/908,993

Art Unit: 1724

Confirmation No.: 6849

Filed: July 19, 2001

Examiner: Ivars C. CINTINS

For: WATER SOFTENING DEVICE

RESPONSE

Hon. Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This response supplements the Amendment filed April 1, 2003.

Reconsideration of this application is requested. Claims 1-23 are pending and at issue.

Claims 1, 2, 5-9 and 12-17 have been rejected under 35 U.S.C. §103(a) as obvious over Schwartz (U.S. Patent No. 4,539,106) in view of Spiegl (U.S. Patent No. 4,332,678). Claims 3, 4, 10, 11, 18 and 19 have been rejected under 35 U.S.C. §103(a) as obvious over Schwartz in view of Spiegl and further in view of Tanabe (U.S. Patent No. 5,811,012).

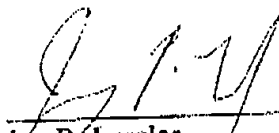
As mentioned in the April 1, 2003 Amendment, none of the cited references disclose or suggest controlling the flow of raw water and regeneration of water softeners based on the difference between a previous measurement value and a current measurement value from a hardness detection device as in the presently claimed invention.

Hardness sensors typically deteriorate and/or lose calibration over time resulting in measurement errors and water having an undesired hardness. The method and apparatus of the present invention rely on the difference between two hardness measurements. As a result, the measurement error due to the hardness sensors is eliminated, and the apparatus properly determines when the water softeners are losing their efficacy and need to be regenerated. This insures the apparatus obtains water of the desired hardness.

Applicants also note that none of the cited references disclose or suggest a non-regenerating polisher containing a Na⁺ type ion exchange resin as recited in claims 20-23. Since the Na⁺ type ion exchange resin produces a salt as a reclaiming agent, a safety apparatus is not required for reclaiming the salt produced. In contrast, hydrogen chloride produced from H-type ion exchange resins requires a safety apparatus. Additionally, the reclaiming agent is less expensive for Na⁺ type ion exchange resins and, therefore, is less expensive to operate.

For the foregoing reasons, the cited references alone or in combination fail to render obvious the presently claimed invention. Accordingly, applicants respectfully request withdrawal of this rejection.

Respectfully submitted


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